Figure 1
Biocular EPE

Prior art

S

DOE2
(right eye)

from imager

DOE1

DOE2
(left eye)

Figure 2
Biocular EPE

Prior art

Figure 3

Continuous grating with symmetric period profile

DOE1

G

S

R+1

R-1

W

θ

Prior art
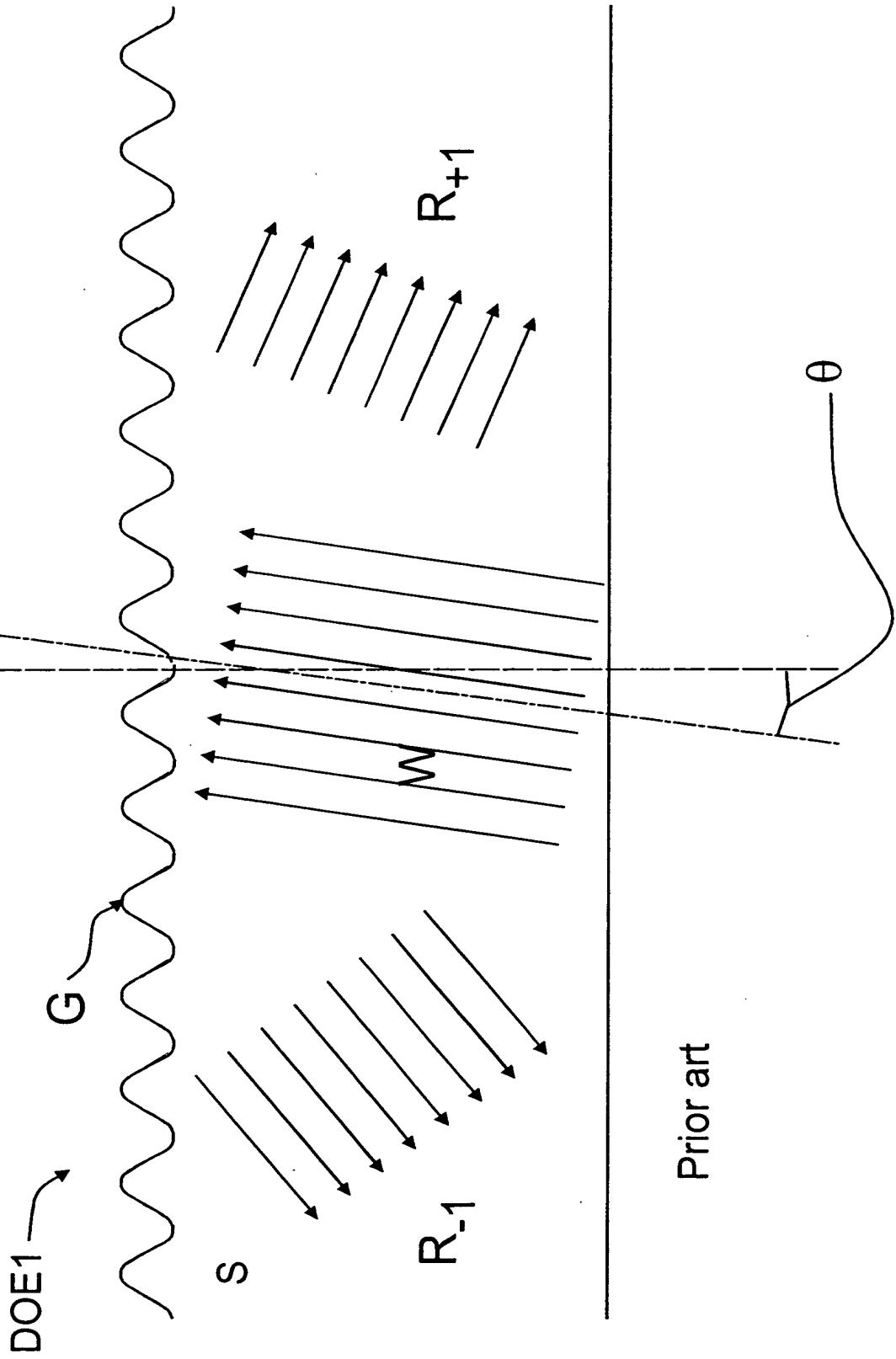
Figure 4

Angular dependency

Profile = A*sin(2πx/d)

Al coating   Theta / deg   Prior art
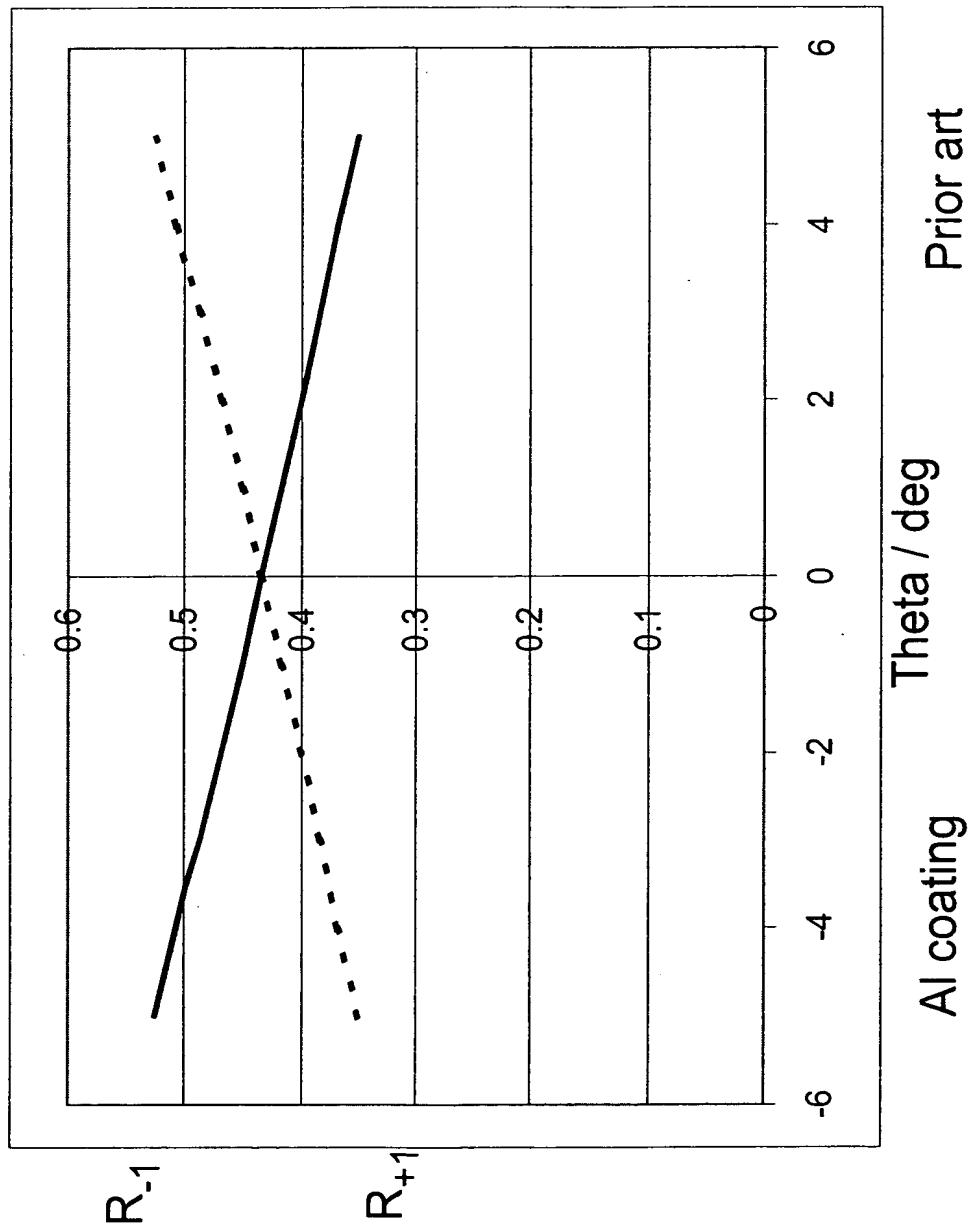
Figure 5

Continuous grating with asymmetric period profile

Prior art
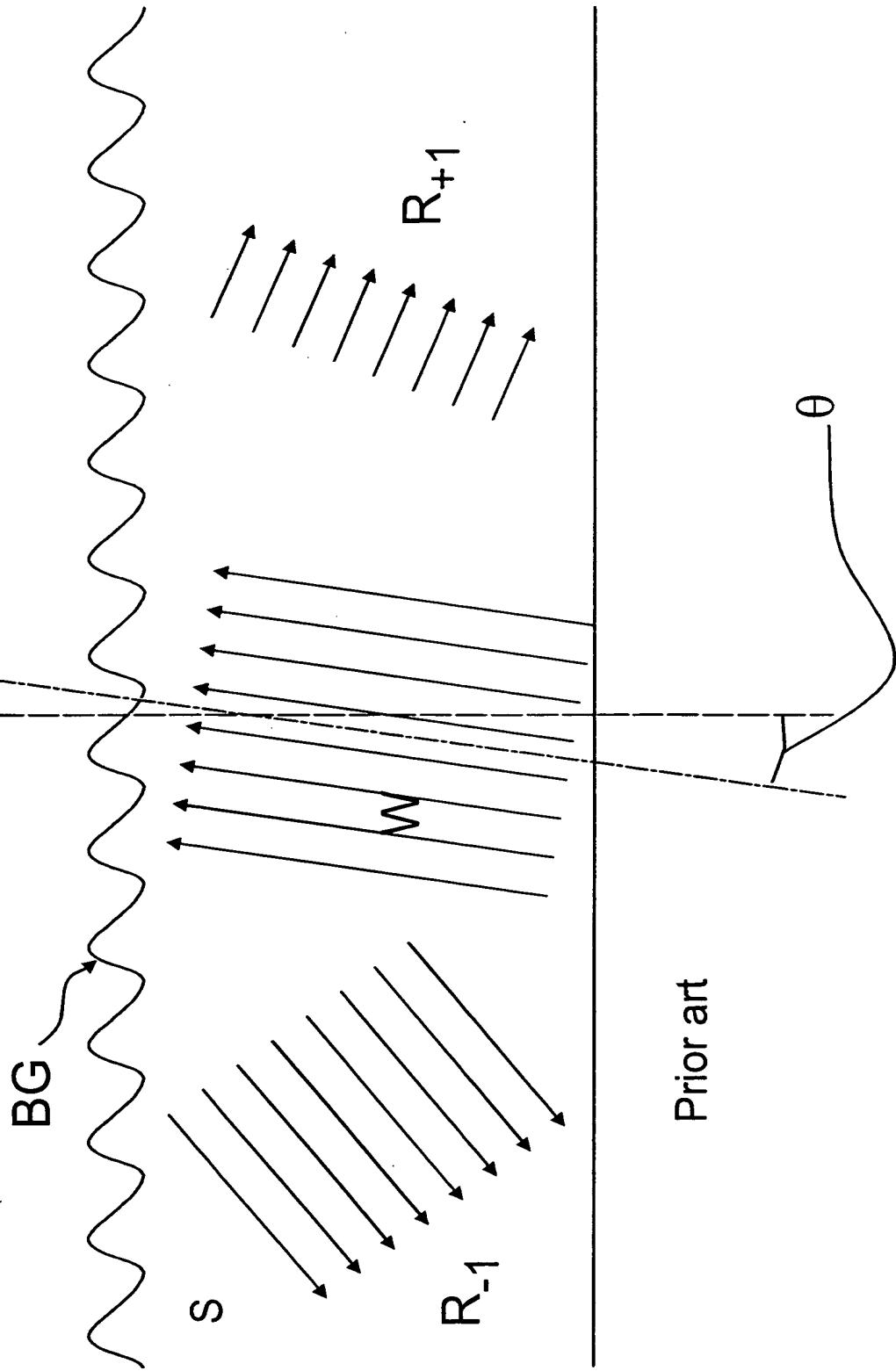
Figure 6

## Symmetrically splitted grating with asymmetric period profile
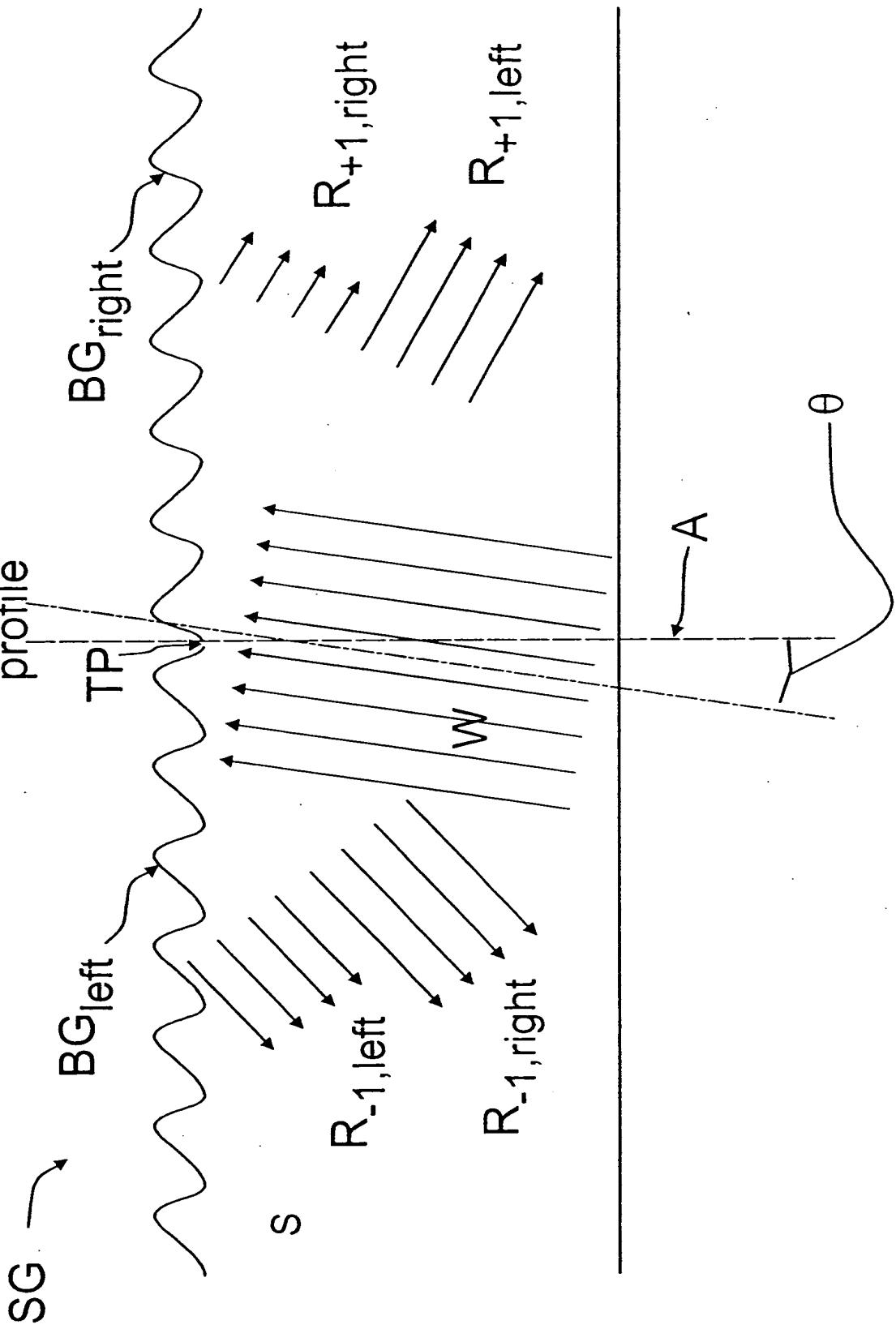
Figure 7

## Symmetrically splitted grating with beam shift
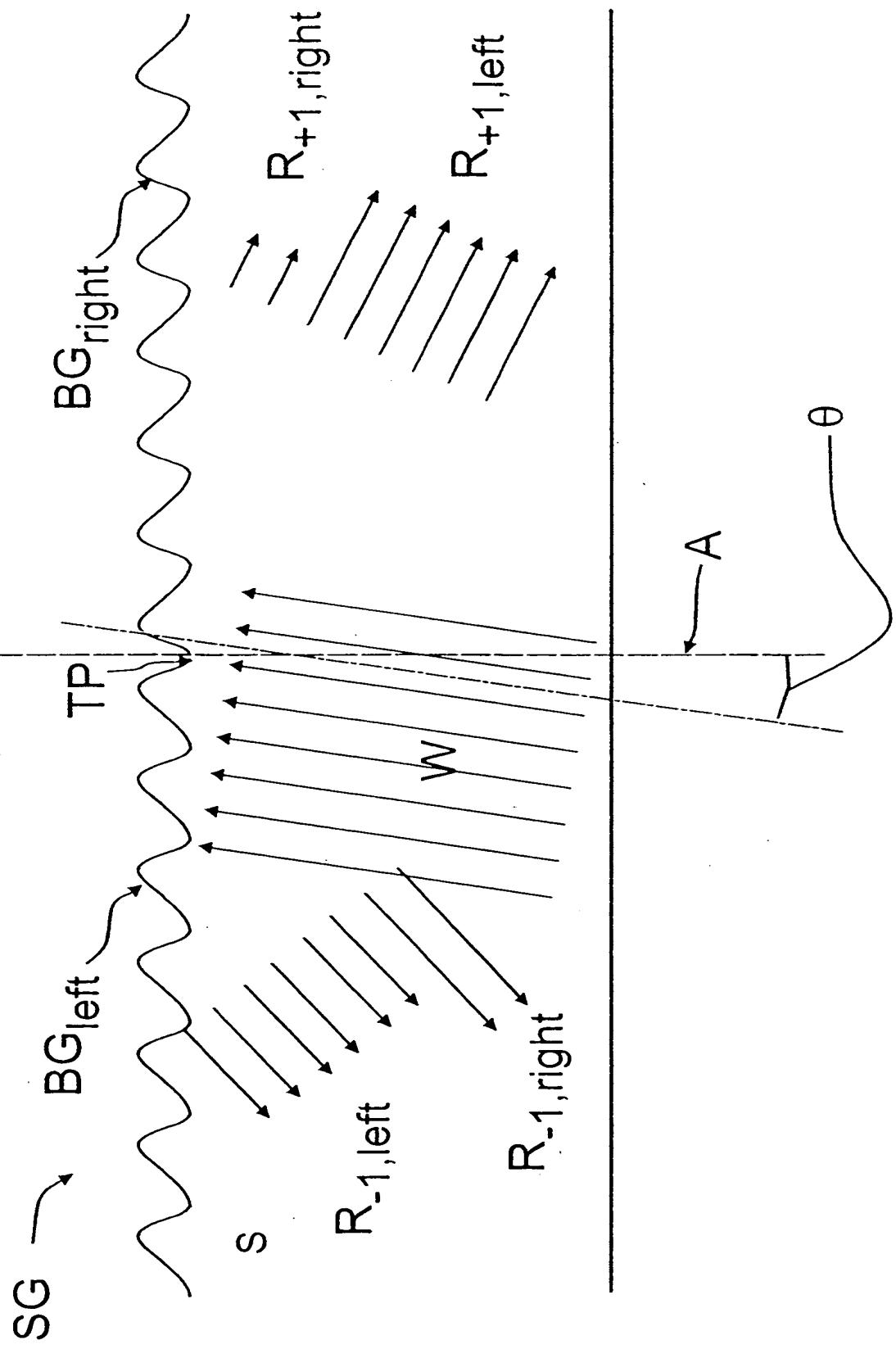
Figure 8
Beam shifting, center
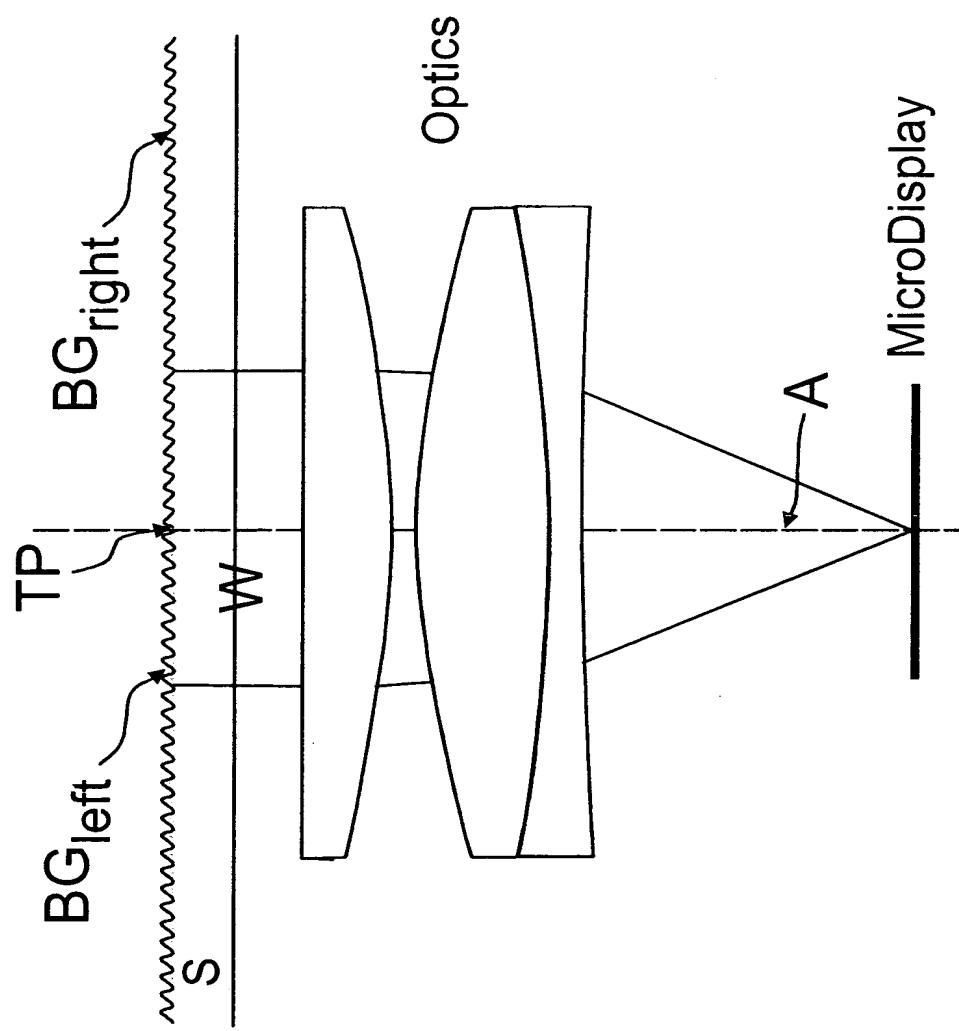
Figure 9
Beam shifting, at the edge

Figure 10
Beam shifting alternative setup

Reversed profile

BG_right

BG_left

TP

S

W

Optics

A

MicroDisplay
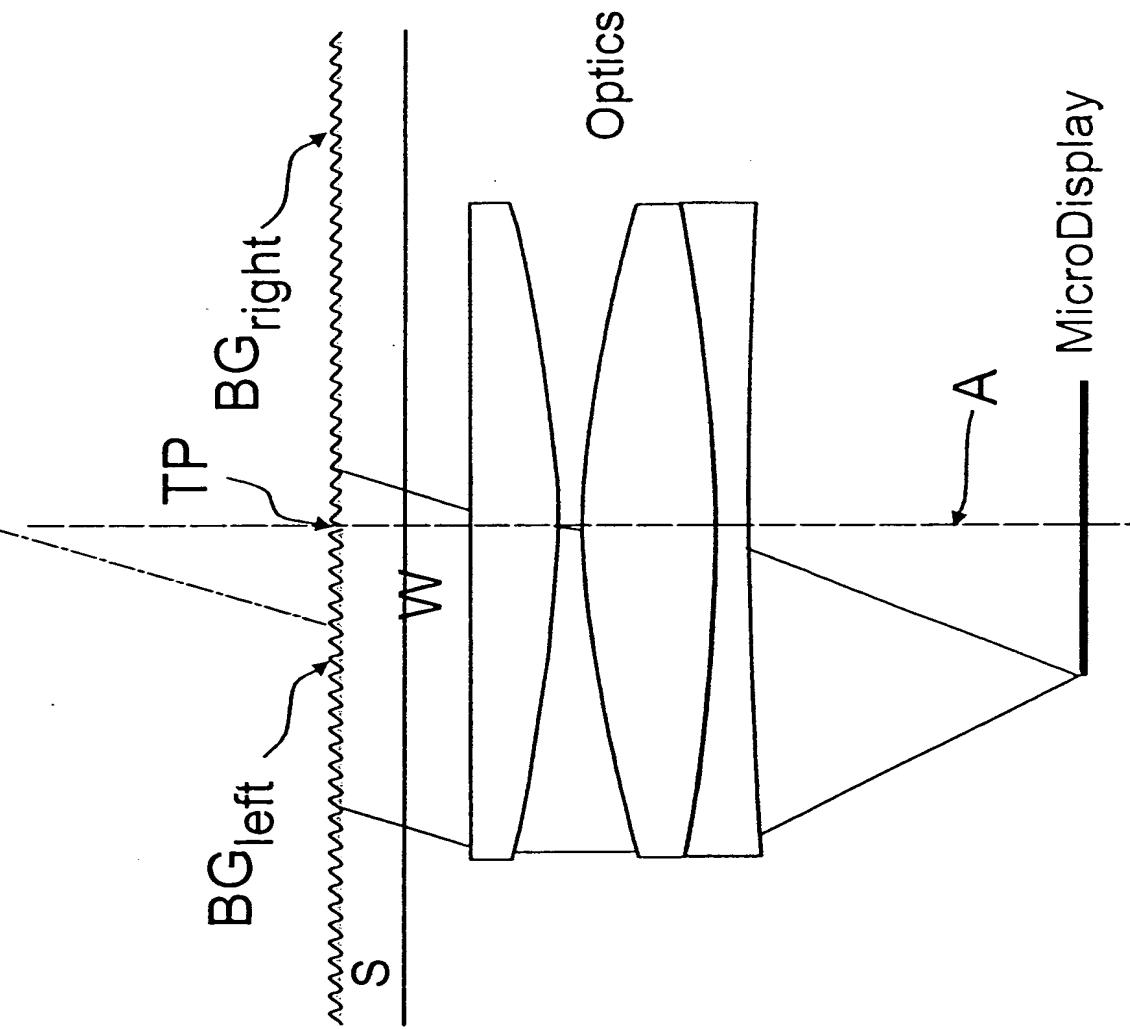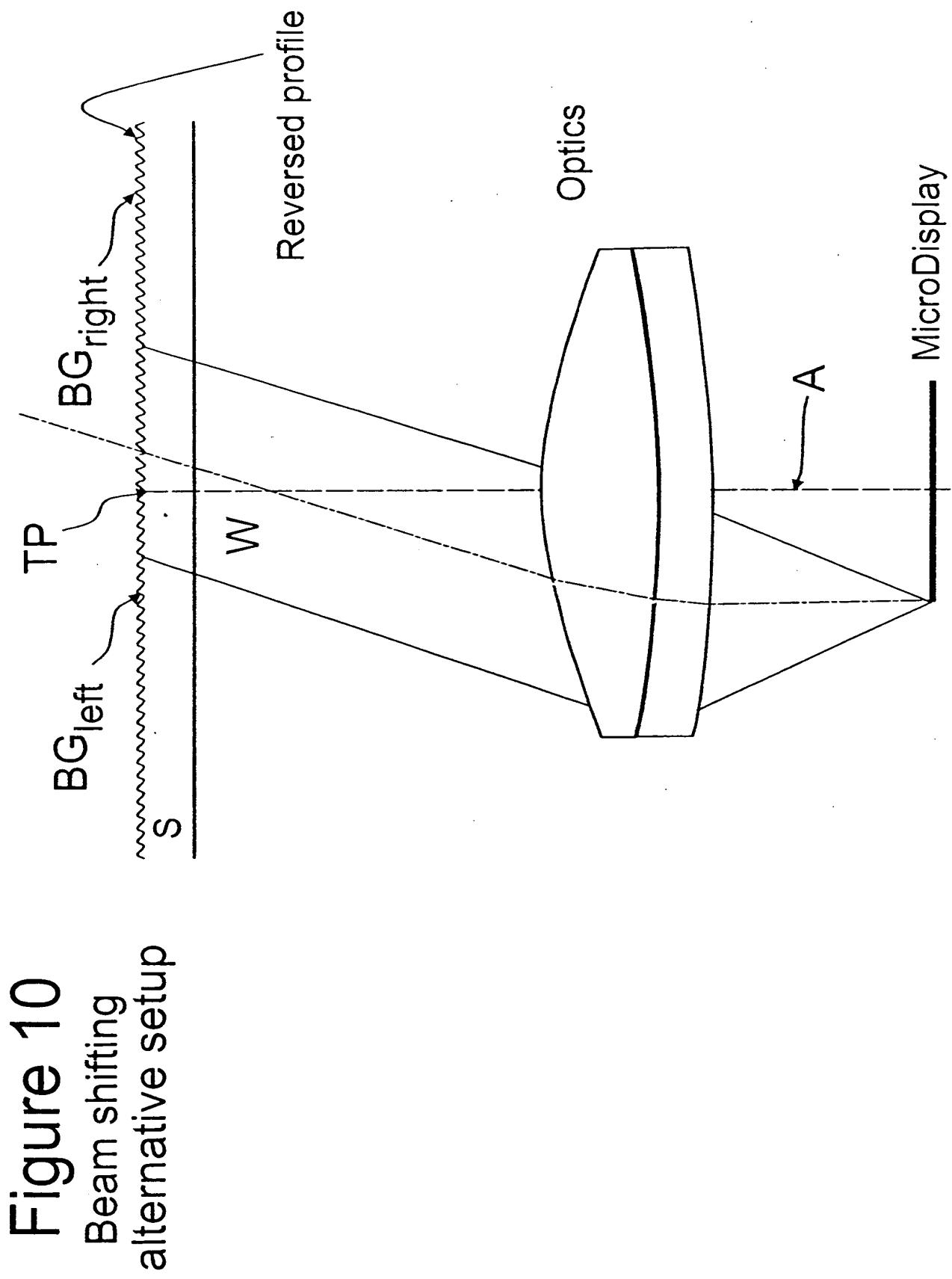
Figure 11

Compensation of Angular dependence

Profile = A*[sin(2πx/d)+0.25sin(4πx/d)+0.05sin(6πx/d)
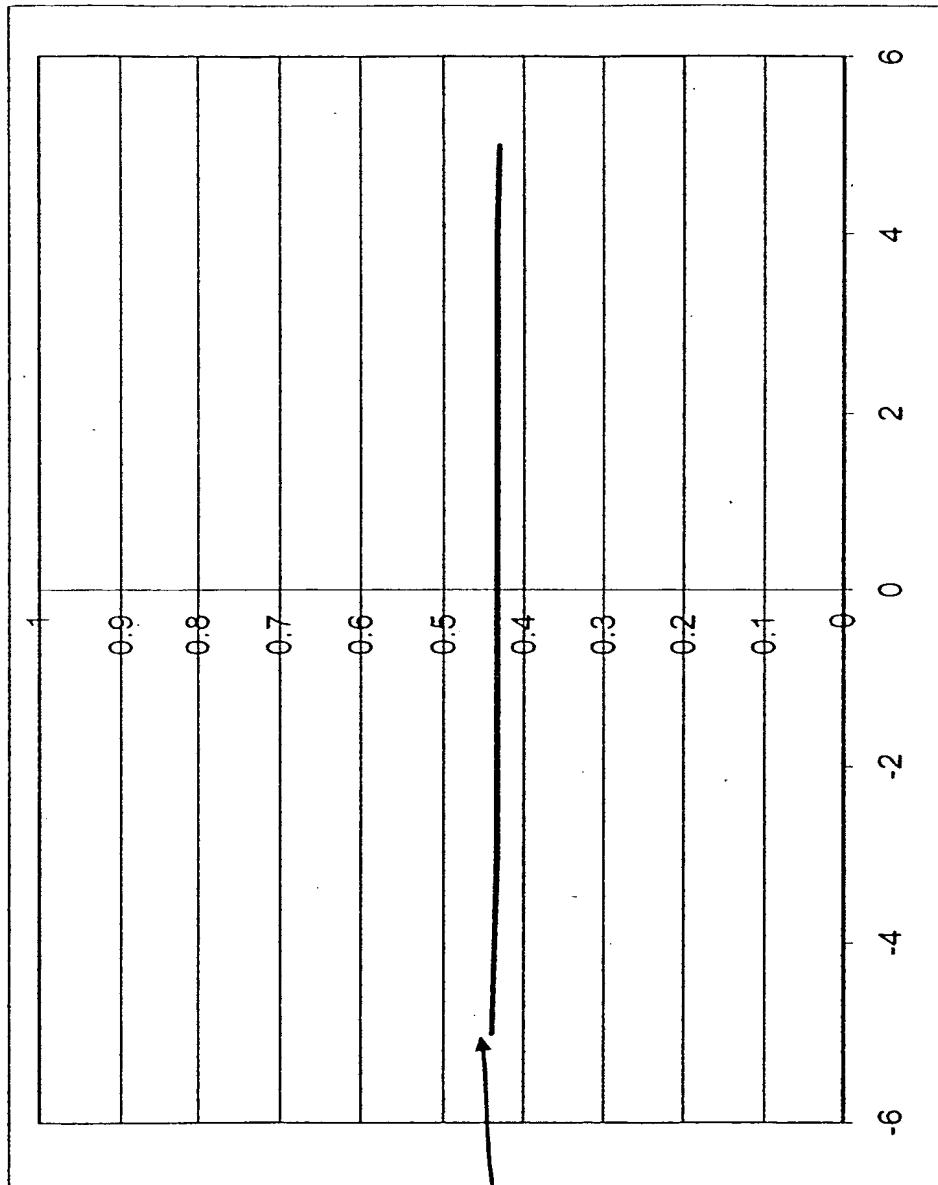
Theta / deg

Al coating

$\eta=(0.5-k\theta)R_{+1}(-\theta)+(0.5+k\theta)R_{-1}(\theta)$

Figure 12
Monocular EPE

SG

MBG$_{left}$

S

R$_{+2,left}$

TP

MBG$_{right}$

R$_{-1,right}$

W

R$_{+1, right}$
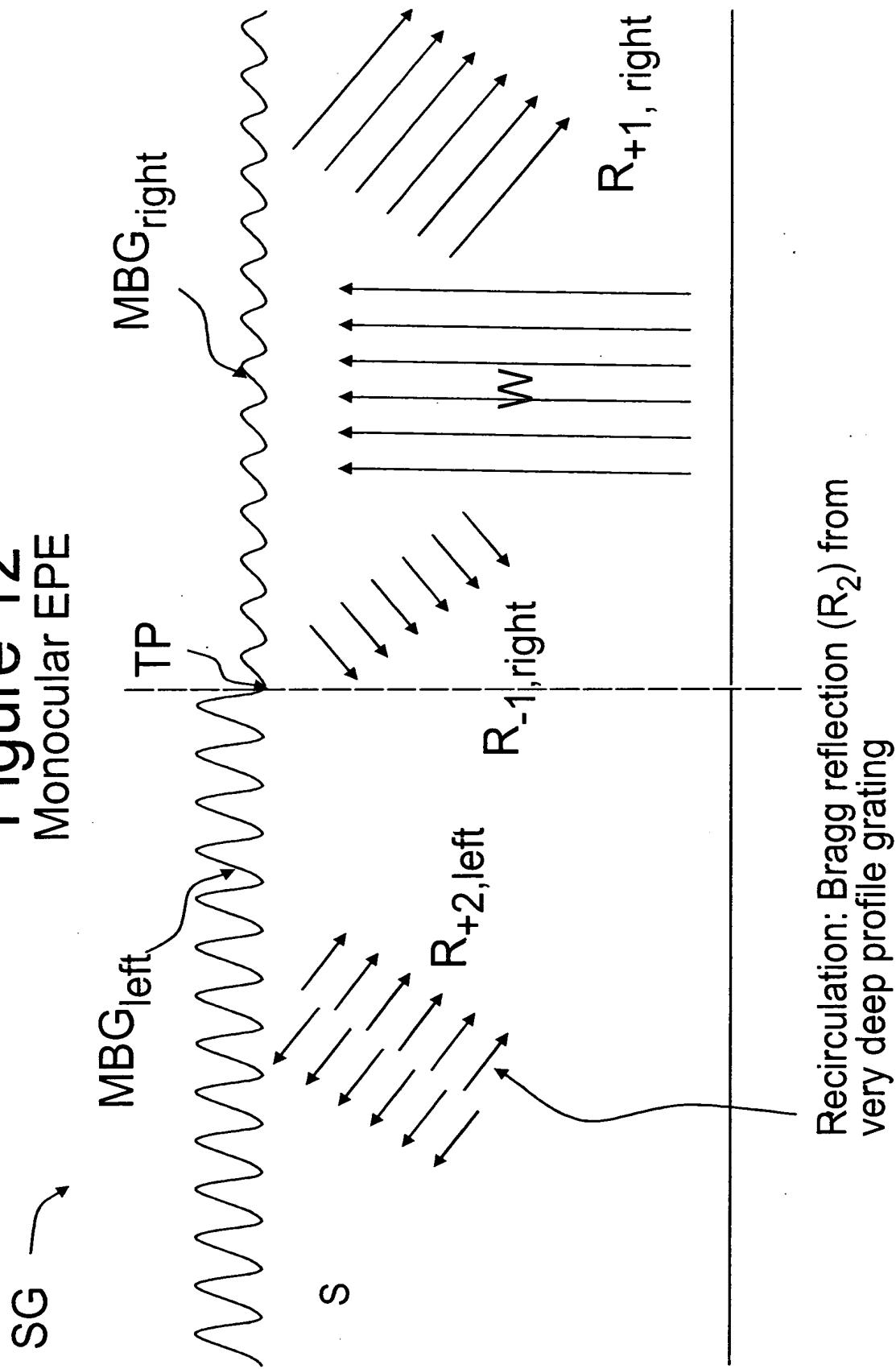
Recirculation: Bragg reflection (R$_2$) from very deep profile grating

Coupling Efficiency as a function of grating depth

Figure 13b

Figure 13a